WHAT IS CLAIMED IS:

1. A magnetoresistance-effect element comprising:

a magnetism-sensing section the electric resistance of which changes in accordance with an external magnetic field;

a low-resistance metal layer contacting the magnetism-sensing section; and

an oxide layer provided on that surface of the low-resistance metal layer which faces away from the magnetism-sensing section.

2. The magnetoresistance-effect element according to claim 1, wherein the low-resistance metal layer is made of copper.

3. The magnetoresistance-effect element according to claim 1, wherein the oxide layer contains material that oxidizes the element constituting the low-resistance metal layer.

4. The magnetoresistance-effect element according to claim 1, wherein the magnetism-sensing section, a pinned layer the direction of magnetization of which is fixed by an anti-ferromagnetic layer, and a nonmagnetic metal layer interposed between the magnetism-sensing section and the pinned layer constitute a spin-valve film.

5. The magnetoresistance-effect element according to claim 4, wherein at least the anti-ferromagnetic layer, the pinned layer, the nonmagnetic metal layer, the magnetism-sensing section, the low-resistance metal layer and the oxide layer are provided on a substrate, laid one upon another in the order mentioned.

6. The magnetoresistance-effect element according to claim 5, wherein a protective layer is formed on the oxide layer.

7. The magnetoresistance-effect element according to claim 4, wherein at least the oxide layer, the low-resistance metal layer, the magnetism-sensing section, the nonmagnetic metal layer, the pinned layer and the anti-ferromagnetic layer are provided on a substrate, one laid upon another in the order mentioned.

8. The magnetoresistance-effect element according to claim 1, wherein magnetism-sensing sections and nonmagnetic metal layers are alternately laid, forming an artificial lattice film, and the low-resistance metal layer contacts the outermost magnetism-sensing section.

9. The magnetoresistance-effect element according to claim 1, wherein a total thickness of the low-resistance metal layer and oxide layer ranges from 0.5 nm to 1.5 nm.

10. A magnetoresistance-effect magnetic head comprising:

a substrate;

a pair of magnetic shield members provided on the substrate;

a magnetoresistance-effect element interposed between the magnetic shield members;

a pair of bias layers provided at the ends of longitudinal direction of the magnetoresistance-effect element; and

a pair of lead electrodes provided in the form of thin film and arranged right

above the bias layers,

wherein the magnetoresistance-effect element comprises a magnetism-sensing section the electric resistance of which changes in accordance with an external magnetic field, a low-resistance metal layer contacting the magnetism-sensing section, and an oxide layer provided on that surface of the low-resistance metal layer which faces away from the magnetism-sensing section.

11. The magnetoresistance-effect magnetic head according to claim 10, wherein the low-resistance metal layer is made of copper.

12. The magnetoresistance-effect magnetic head according to claim 10, wherein the oxide layer contains material that oxidizes the element constituting the low-resistance metal layer.

13. The magnetoresistance-effect magnetic head according to claim 10, wherein the magnetism-sensing section, a pinned layer the direction of magnetization of which is fixed by an anti-ferromagnetic layer, and a nonmagnetic metal layer interposed between the magnetism-sensing section and the pinned layer constitute a spin-valve film.

14. The magnetoresistance-effect magnetic head according to claim 13, wherein at least the anti-ferromagnetic layer, the pinned layer, the nonmagnetic metal layer, the magnetism-sensing section, the low-resistance metal layer and the oxide layer are provided on a substrate, laid one upon another in the order mentioned.

15. The magnetoresistance-effect magnetic head according to claim 14, wherein a

protective layer is formed on the oxide layer.

16. The magnetoresistance-effect magnetic head according to claim 13, wherein at least the oxide layer, the low-resistance metal layer, the magnetism-sensing section, the nonmagnetic metal layer, the pinned layer and the anti-ferromagnetic layer are provided on a substrate, one laid upon another in the order mentioned.

17. The magnetoresistance-effect magnetic head according to claim 10, wherein magnetism-sensing sections and nonmagnetic metal layers are alternately laid, forming an artificial lattice film, and the low-resistance metal layer contacts the outermost magnetism-sensing section.

18. The magnetoresistance-effect magnetic head according to claim 10, wherein a total thickness of the low-resistance metal layer and oxide layer ranges from 0.5 nm to 1.5 nm.

19. A method of manufacturing a magnetoresistance-effect element having a magnetism-sensing section the electric resistance of which changes in accordance with an external magnetic field, said method comprising:

a first step of forming the magnetism-sensing section and a low-resistance metal layer on a substrate, in the order mentioned; and

a second step of forming an oxide layer by oxidizing that surface of the low-resistance metal layer which faces away from the magnetism-sensing section.

20. The method according to claim 19, wherein a protective layer is formed on the low-resistance metal layer in the first step, and that surface of the low-resistance metal

which faces away from the magnetism-sensing section is oxidized in the second step, by applying oxygen through the protective layer.

21. The method according to claim 20, wherein the protective layer has a thickness of 1 nm or less.

22. The method according to claim 20, wherein the protective layer contains tantalum.

23. The method according to claim 19, wherein at least an anti-ferromagnetic layer, a pinned layer whose direction of magnetization is fixed by the anti-ferromagnetic layer, a nonmagnetic layer, the magnetism-sensing section and a low-resistance metal layer are formed in the first step on the substrate in the order mentioned.

24. The method according to claim 19, wherein at least an artificial lattice layer composed of the magnetism-sensing sections and nonmagnetic layers alternately laid, one on another, and the low-resistance metal layer are formed in the first step on the substrate in the order mentioned.

25. A method of manufacturing a magnetoresistance-effect element having a magnetism-sensing section the electric resistance of which changes in accordance with an external magnetic field, said method comprising:

a first step of forming a low-resistance metal layer and the magnetism-sensing section on a substrate, in the order mentioned; and

a second step of forming an oxide layer by oxidizing that surface of the low-resistance metal layer which faces away from the magnetism-sensing section.

26. The method according to claim 25, wherein a primary-coat layer made of oxide is formed in the first step, on that surface of the low-resistance metal layer which faces away from the magnetism-sensing section.

27. The method according to claim 25, wherein at least the low-resistance metal layer, the magnetism-sensing section, a nonmagnetic layer, a pinned layer whose direction of magnetization is fixed by an anti-ferromagnetic layer, and the anti-ferromagnetic layer are formed in the first step on the substrate in the order mentioned.

28. The method according to claim 25, wherein at least the low-resistance metal layer, and an artificial lattice layer composed of the magnetism-sensing sections and nonmagnetic layers alternately laid, one on another, are formed in the first step on the substrate in the order mentioned.